

**APPARATUS AND METHODS USABLE IN CONNECTION WITH DISPENSING
FLEXIBLE SHEET MATERIAL FROM A ROLL**

ABSTRACT OF THE DISCLOSURE

A powered dispenser for dispensing individual sheet segments from a continuous roll of sheet material provided with spaced tear lines comprises a powered feed mechanism, a releasable, powered drive mechanism, a powered transfer mechanism, a pair of web sensing sensors, a capacitive sensing system providing automatic sensitivity adjustment, and control circuitry. A dual power supply system provides a mechanical lock-out functionality, and the control system is protected from electrostatic build-up on the surface of the feed roller. The web sensor, and an antenna plate of the capacitive sensing system, are provided on respective printed circuit boards mounted in overlying relation. Utilizing signals received from the pair of web sensors and the capacitive sensing system, the control circuitry senses the presence of a user to activate the powered drive mechanism, and prevents further dispensing of the sheet material until a previously dispensed segment is separated from the roll. The web sensors detection of a leading edge of the sheet material initiates a predetermined interval of sheet material advancement providing a proper placement of successive tear lines. Various approaches may be utilized to accommodate inadvertent sheet "tabbing" scenarios. The web sensors, together with the control circuitry, are also used to detect the depletion, or absence, of a working roll of sheet material, whereupon the control circuitry controls the powered transfer mechanism to automatically transfer the web feed supply from a depleted working roll to a reserve roll. The powered transfer mechanism may include a motor driven transfer bar, or provide motor driven release of a spring biased transfer bar. Another arrangement allows for ready release of a roll core, and drop of the same into an open dispenser cover for removal.

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